DRAFT

25X1

MEMORANDUM FOR THE RECORD

SUBJECT : U-2R Performance Degradation With Increase in Zero Fuel Weight And/Or Decrease in Fuel Weight.

1. During July 1966, the Office of the Deputy for Research and Development/OSA released for in-house information, to those with a "need-to-know", the "Performance Evaluation of the U-2R Model Airplane" [redacted] 25X1

2. The performance evaluation of the U-2R was determined for the airplane at a zero fuel weight condition of 17,400 lbs. The zero fuel weight condition includes 100 lbs. of unusable fuel, and 945 lbs. of payload.

3. The payload figure of 945 lbs. is based on a LAC estimate for the following:

B Overload with System VI

System 9B

System 12B

System 13A

Oscar Sierra

4. An increase in zero fuel weight and/or a decrease in fuel weight will reduce the performance estimated in the U-2R design, and the airplane will approach the performance of the U-2C.

The following two examples are very indicative:

a. T.O.G.W. = 30,130 lbs. Removed 1000 lbs of fuel and increased the "payload" by 1000 lbs.

Results:

Cruise altitude changes

X1 From 68,200' [redacted] ft. to 68,200 [redacted] ft. 25X

Range:

[redacted] 25X

~~1000 lbs. of fuel.~~

b. T.O.G.W. = 31,130 lbs. Increased the payload by 1000 lbs.

~~To the airplane with 945 lbs. of payload and 12,730 lbs. of fuel (T.O.G.W. = 30,130 lbs) add an additional 1,000 lbs. of payload (945 + 1,000).~~

elim

Results: ~~Fuel~~ CRUISE altitude changes

X1 From 68,200 [redacted] ft. to 67,520 [redacted] ft. 25X

25X

Range:

[redacted]

~~5. It should be noted that additional performance degradations will result from any unforeseen thrust reductions or from the addition of any external items contributing aerodynamic drag.~~ 5. In view of the above noted performance implications, which may result due to either internal or external configuration changes, it is recommended that D/R&D be consulted prior to the implementation of any changes so that the impact of these changes can be analysed and recommendations be put forth.

as well

from increased weight and

recommended that any proposed changes be kept to an absolute minimum. Any such changes will be examined closely prior to approval.

ROD.

D/SA

DDISA

D/O

Idea

DIM

Comp.

Spec. Act. Staff

~~NRO Liaison~~ X

~~Support~~ X

Reichert

1 - D/R&D

2 - ASD/R&D

3 - D/SA

4 - DDISA

5 - D/O

6 - Idea

7 - DIM

8 - Comp.

9 - SAS

10 - Reichert

11 - chrono

12 - RB